



GOVERNMENT OF BERMUDA

Ministry of Public Works

Department of Works and Engineering

Request for Tenders
For
Replacement of Boiler Components

At The

Tynes Bay Waste to Energy Facility
31 Palmetto Road
Devonshire Bermuda DV05

Project No : 31/355/78

Issue Date: August 5, 2015

Closing Date: September 11, 2015



GOVERNMENT OF BERMUDA

Ministry of Public Works

Date: August 5, 2015

Dear Bidders

Dear Sir/Madam:

Re: INVITATION TO TENDER FOR REPLACEMENT OF BOILER COMPONENTS

Project: REPLACEMENT OF BOILER COMPONENTS Project No: 31/355/78

You are invited in conjunction with others to provide and submit a competitive bid for the above mentioned work; we hereby enclose the following documents on which your bid should be based:

- Notice of Intent to Respond
- Instructions to Bidders
- Scope of Work
 - Boiler Installation Evaporator I
 - Boiler Installation Evaporator II
 - Boiler Installation Superheater I Supply & Installation
 - Boiler Installation Superheater II Supply & Installation
 - Boiler Installation Waterwalls Fabrication
 - Boiler Installation Waterwalls Installation
 - Refractory System Installation
- Tender Documentation Instructions
- Tender Documents
 - Form of Tender
 - Appendix I – Part 1 Certificate of Confirmation of Non-Collusion
 - Appendix I - Part 2 to Form of Tender
 - Appendix II Company Information Form
 - Tender Pricing
 - Acknowledgment Letter of Standard Form of Agreement
 - Drawings & Documentation:
 - Evaporator I: 325-1027
 - Evaporator II: 325-1028
 - Superheater I: 381-877
 - Superheater II: 381-876 & ZD09Z40-100
 - Waterwalls : 324-4080, 324-4081, 324-4082, 324-4083, 324-4084, 324-4085
 - Contract Documents: (sample draft for reference/information only)



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Introduction:

The following is an abbreviated scope of work intended to provide potential bidders with information as to the size and nature of the project in its entirety. Bidders are to refer to the specific bid packages that have been provided along with associated drawings and specifications for the complete scope of work for bidding per the individual categories briefly described below.

- Project- Replacement of Boiler Components
- Project Site - 31 Palmetto Road, Devonshire, Bermuda DV05
- Project No - 31/355/78

Project Description:

This project comprises of several critical boiler unit components that require replacement in order to maintain safe, consistent and efficient operation. The key components involve the following:

Boiler Unit 1

- Supply & Replacement of Superheater I Tubes
- Supply & Replacement of Superheater II Tubes
- Supply & Replacement of Evaporator I Tubes
- Supply & Replacement of Evaporator II Tubes
- Installation of Refractory capping system for tiles

Boiler Unit

- Supply & Replacement of Superheater I Tubes
- Supply & Replacement of Superheater II Tubes
- Supply & Replacement of Evaporator I Tubes
- Supply & Replacement of Evaporator II Tubes
- Supply & Replacement of Waterwall Tubes
- Supply & Complete Replacement of Refractory
- Installation of Refractory capping system for tiles

Broadly, the scope of work for Ministry of Public Works, Tynes Bay Waste to Energy Facility, the “Employer” requires the work established above to fall in line with the scope and render the plant operational upon completion.

Key Dates

Tender Issue Date: August 5, 2015
Tender Closing Date: September 11, 2015

Project Scheduled Dates: TBD

Option 1

Option 1 involves two (2) mobilizations at standard work hours (10hr work days):



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Boiler Unit # 1

Superheater I & II
Evaporator I & II
Top Cap Refractory Works

Boiler Unit # 2

Superheater I & II
Evaporator I & II
Top Cap Refractory Works
Waterwalls
Refractory Works

Option 2

Boiler Unit # 1 – Standard work hours (10hr work days)

Boiler Unit #2 - Accelerated Work Schedule (2 crews @ 10 hr work days)

Site Visit

Note: A site visit by a bidding contractor or contractor's representative is a mandatory requirement for the purpose of this Tender. Failure to visit the site will disqualify you from the bid process.

Please note that all costs incurred for bid development shall be borne by the bidder. A site visit can be arranged via email inquiry with the Maintenance/ Project Engineer (see contact details below)

Point of Contact:

Mr. Nasir Wade, Maintenance/Project Engineer for the Tynes Bay Waste-to-Energy Facility of the Department of Works and Engineering within the Ministry of Public, will be the Contract Technical Representative for this project.

Mr. Wade can be reached by telephone on 441-2780536 or by email at: nrwade@gov.bm.

Tender Return Submittal:

Please submit your tender in a sealed envelope marked "Tender Replacement of Boiler Components" and bearing the name of the tenderer, to the Tender Box at the Ministry of Public Works, located on the 3rd floor of the Post Office Building, 56 Church Street, Hamilton by 3:00 p.m. on Friday, 11th September 2015.

NOTE: Late Tenders will not be considered.

Thank-you in advance for offering a competitive bid on this project.

Regards,

Nasir Wade
Maintenance/Project Engineer



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Ministry of Public Works

Government of Bermuda
Tynes Bay Waste to Energy Facility

Notice of Intent to Respond

Version : 01

Date: 6/2/2015

Prepared by: Nasir Wade

Checked by: LS

Approved by: Tynes Bay Management



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Tynes Bay Waste to Energy Facility

Instructions to Bidder

Version : 01

Date: 6/2/2015

Prepared by: Nasir Wade

Checked by: LS

Approved by: Tynes Bay Management



1.10 INSTRUCTIONS TO BIDDERS

1.10.1 General Information

Public Access to Information (PATI)

Any information collected or used by or on behalf of the Government of Bermuda under this solicitation document is subject to the Public Access to Information Act 2010 ("Act"). The information belongs to a class of information that might be made available to the general public unless it is contained in a record that is exempt from disclosure under the Act. Any questions regarding the collection, use, or disclosure of the information should be directed to the public authority that issued this solicitation document.

Schedule Dates:

Tender Submission Date Deadline: Friday September 11, 2015

Tender Submission Time Deadline: 3:00pm Atlantic Time

Project Date: TBD

1.10.2 Description of Works

The Government of Bermuda acting through the Tynes Bay Waste-to-Energy Facility of the Department of Works and Engineering within the Ministry of Public Works ("Employer") requests the services of a single contractor to provide materials, equipment, and labour for a number of boiler component replacement works.

The Employer is located in Devonshire, Bermuda, and operates two (2) Heat Recovery Steam Generators ("Streams") combusting municipal solid waste. The "Streams" are made up of several individual components which when operated provide the plant with usable steam for plant processes.

Broadly, the scope of work for the Employer requires the following work to be performed ("Works"):

Boiler Unit # 1 requires that a portion of tubing be supplied and replaced in the sections designated as superheater I, superheater II, evaporator I and evaporator II.

Boiler Unit # 2 requires that a portion of tubing be supplied and replaced in the same corresponding sections as unit # 1. However, unit # 2 works also consist of the fabrication, supply and installation of furnace water walls.

There is also a requirement for partial refractory work for the top cap of unit # 1 and full tile refractory replacement for unit # 2.

1.10.3 Eligibility and Qualification Requirements



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This invitation to tender is only open to bidders who meet the criteria described herein.

The bidder and the bidder's sub-contractors must meet certain requirements, specified herein, in order to be considered as eligible Bidders for the project. Contractors, sub-contractors and contracting teams, who fail to meet the requirements specified herein as to qualifications, will not qualify for this project, and their tenders will not be accepted.

The bidder must demonstrate that their firm, team leader of their staff and subcontractor staff meet the following requirements:

- Three (3) years of experience in the boiler construction and repair industry.
- Up-to-date Welding R-stamp or equivalent
- Staff responsible for supervision of the service provided: minimum three (3) years of experience
- Staff responsible for welding: minimum of three (3) years of experience with boiler construction and repair industry and High Pressure Welding certification/license.
- The bidder shall submit with his completed tender all appropriate documentation in order to demonstrate the necessary experience and expertise as noted. This shall include descriptions of relevant and similar past projects, details of their Project Team with resumes of key personnel to be assigned to the project and the names and full details of experience of any sub-contractors.
- The bidder shall submit references supporting their performance to time and budget constraints on previous projects. Particular reference should be made to projects of a similar nature.
- In addition, the bidder shall provide a reference from a bank or other financial institution confirming the bidder's capacity to provide the necessary financial resources to complete the works in accordance with the contract and schedule.
- The bidder shall demonstrate that they have no outstanding payments to be made to the Government of Bermuda.
- Tenders submitted by a joint venture of two or more firms as partners shall comply with the following requirements:
 1. The Tender Documents, and in the case of a successful bidder, the Form of Agreement shall be signed so as to be legally binding on all partners;
 2. One of the partners shall be nominated as being in charge; and this authorization shall be evidenced by submitting a power of attorney signed by legally authorized signatories



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- of all the partners;
3. The partner in charge shall be authorized to incur liabilities and receive instructions for and on behalf of any and all partners of the joint venture, and the entire execution of the Contract including payment shall be done exclusively with the partner in charge;
 4. All partners of the joint venture shall be liable, jointly and severally, for the execution of the Contract in accordance with the Contract terms and a relevant statement to this effect shall be included in the authorization mentioned under 2. above as well as in the Form of Tender and the Form of Agreement (in the case of a successful Bidder); and
 5. A copy of the agreement entered into by the joint venture partners shall be submitted with the Tender.
 6. All corporate bidders must include, with their tenders, a copy of the company's Certificate of Incorporation and a Certificate of Good Standing or its equivalent as evidence of the fact that the company is an existing registered company at the date of tender. Failure to provide the certificate of incorporation and the Certificate of Good Standing or its equivalent will render the tender void.

1.10.4 Cost of Tendering

The Bidder shall bear all costs associated with the preparation and submission of his Tender and the Employer, will in no case be responsible or liable for these costs, regardless of the conduct or outcome of the tendering process.

1.10.5 Site Inspection

1. **The Bidder is advised that a **mandatory** site visit is required as a pre-requisite component in order to be eligible to Tender. Failure by a bidder to visit the site is grounds for Tender rejection.**
2. The Bidder shall be deemed to have satisfied themselves as to the form and nature of the site, the quantities and nature of the work and materials necessary for the completion of the Works, and in general to have obtained all necessary information as to the risks, contingencies and other circumstances which may influence or affect their Tender.
3. Bidders will be granted permission by the Employer, upon application, to enter upon the site of the Works for the purpose of inspection but only upon the express condition that such person will release and indemnify the Employer from and against all liability in respect of personal injury, loss of or damage to property and any other loss.
4. Bidders shall make their own assessment of existing facilities, conditions and difficulties which will attend the execution of the Works called for by the proposed construction contract;



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including local conditions, constraints due to working in an occupied building with restricted hours, labour conditions, uncertainty of weather, difficulties with access, and all other reasonable contingencies. Bidders shall satisfy themselves by personal examination of the site of the proposed Works and by such other means as they choose as to actual conditions and requirements, and as to the quantities required.

5. The Bidder shall make and will be deemed to have made the fullest inquiries in Bermuda as to the availability of skilled and unskilled labour which they may require in the execution of the Contract and shall employ, to the extent practicable and reasonable, staff and labour from sources within Bermuda.
6. No after claim will be allowed or considered for any work that may be required for the proper execution and completion of the work, due to failure by the bidder to examine the site and make proper allowances for the conditions to be encountered.

1.10.6 Contractor's Schedule

1. Bidders are advised that in order to comply with the tendering procedure, bidders shall include with their completed tenders a statement of the length of time required to complete the Works. A complete detailed schedule for completion of the works shall be provided during tender submission in order to fully evaluate the tenders.
2. The schedule shall be in the form of a Gantt chart in electronic format (Microsoft Project) and will be fully detailed to include all construction activities from commencement to completion of the project. All critical path construction activities will be identified. The key milestones in the construction process will also be identified.
3. Tenders are to specify their most cost effective completion date.
4. The bidder shall make every effort to complete the Works by the stipulated completion date if provided, and shall adjust his/her schedule of activities accordingly.
5. The bidder shall pay extra costs to complete the work on schedule, which may be incurred because of: increasing the labour force; increasing working hours either by overtime or by using shifts; using more equipment and machinery; or any other procedure which must be used.
6. The bidder shall include in its tender for any overtime or abnormal shift required to complete the project. Allow for extra care to minimize disruptions in an operational facility.

1.10.7 Health & Safety

All work carried out must be in accordance with the Health & Safety Act of 1982 and subsequent revisions.

Please Note: The Works and Engineering policy provides that no alcohol or prohibited drugs shall be consumed on the site or in any vehicle related to the work or services provided. Also, no employee of the contractor or sub-contractor shall be under the influence of alcohol or drugs whilst at work.



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Government of Bermuda
Tynes Bay Waste to Energy Facility

Tender Documentation Instructions

Version : 01

Date: 6/2/2015

Prepared by: Nasir Wade

Checked by: LS

Approved by: Tynes Bay Management



1.20 TENDER DOCUMENTATION INSTRUCTIONS

1.20.1 Content of the Tender Documents

The set of Tender documents issued for the purpose of Tendering includes the documents stated below, together with any Addenda thereto issued [and any minutes of pre-bidders meetings].

- Notice of Intent to Respond
- Instruction to Bidders
- Scope of Work
 - Boiler Installation Evaporator I
 - Boiler Installation Evaporator II
 - Boiler Installation Superheater I Supply & Installation
 - Boiler Installation Superheater II Supply & Installation
 - Boiler Installation Waterwalls Fabrication
 - Boiler Installation Waterwalls Installation
 - Refractory System Installation
- Tender Documentation Instructions
- Tender Documents
 - Form of Tender
 - Appendix I – Part 1 Certificate of Non-Collusion
 - Appendix I - Part 2 to Form of Tender
 - Appendix II Company Information Form
 - Tender Pricing
 - Acknowledgment Letter of Standard Form of Agreement
 - Drawings & Documentation:
 - Evaporator I: 325-1027
 - Evaporator II: 325-1028
 - Superheater I: 381-877
 - Superheater II: 381-876 & ZD09Z40-100
 - Waterwalls : 324-4080, 324-4081, 324-4082, 324-4083, 324-4084, 324-4085
 - Contract Documents: (sample draft for reference/information only)

The bidder is expected to examine carefully all instructions, conditions, forms, terms, specifications and drawings in the tender documents. Failure to comply with the requirements of the Tender submission will be at the Bidder's own risk.

The tender forms and drawings & specifications are available in PDF format upon request. Submit request via email to nrwade@gov.bm and state in the email subject line "Boiler Component Replacements". In addition these will be posted on www.opmp.gov.bm Office of Project Management & Procurement Notices website.



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1.20.2 Clarification of Tender Documents

1. A prospective Bidder requiring any clarification of the Tender documents may notify the Employer in writing, via email at the Employer's email address as indicated. The Employer will respond in writing by email to any request for clarification which they receive earlier than 3 days prior to the deadline for the submission of Tenders. Written copies of the Employer's response, where necessary (including a description of the inquiry but without identifying its source), will be sent to all prospective Bidders who have provided contact details.
2. Submission of written queries shall be sent to the following email address: nrwade@gov.bm

1.20.3 Amendment of Tender Documents

1. At any time prior to the deadline for submission of tenders, the Employer may, for any reason, whether at his own initiative or in response to a clarification requested by a prospective bidder, modify the tender documents by the issuance of an addendum.
2. The addendum will be sent in writing by email to all prospective bidders who have received the tender documents from the designated distributor authorised by the Ministry and will be binding upon them. Prospective bidders shall promptly acknowledge receipt thereof by email to the following:

Ministry of Public Works,
Tynes Bay Waste to Energy Facility
31 Palmetto Road Devonshire, Bermuda DV05
Email: nrwade@gov.bm

3. In order to afford prospective bidders reasonable time in which to take an addendum into account in preparing their tenders, the Employer may, at their discretion, extend the deadline for the submission of tenders.

1.30 PREPARATION OF TENDERS

1.30.1 Language of the Tender

The tender prepared by the Bidder and all correspondence and documents relating to the Tender exchanged by the Bidder and the Employer, shall be written in the English language.

1.30.2 Documents Comprising the Tender



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The Tender to be prepared by the Bidder shall contain the following:

Tender Forms – Mandatory

Form of Tender and Appendix to Form of Tender;

Confirmation of addenda received

Information of Qualification and Eligibility as set out in sub-clause 1.3 of firm and personnel for the services and works

Tender Price Breakdown;

Health and Safety Plan for Works;

Company Information Forms

Confirmation Certificate of Confirmation of Non-Collusion;

1.30.3 Additional Required Documentation

Letter from principal bank confirming credit status of bidder;

Eligibility and qualifications of firms and personnel;

Contractor's Certificate of Incorporation;

Contractor's Certificate of Good Standing (or its equivalent)

1.30.4 Additional Recommended Documentation

Project Construction Schedule of Works;

Method Statement about how the installation is to be completed

Any other materials required to be completed and submitted in accordance with the Instructions to Bidders embodied in the Tender documents.

The Tender Forms provided shall be used without exception. One copy set of the above is to be returned in accordance to the instructions provided.

1.30.5 Tender Prices

1. Unless stated otherwise in the Tender documents, the contract shall be for the whole Works as detailed in these documents and shown on the drawings and based on the completed Form of Tender lump sum, as submitted by the bidder.
2. The Bidder shall fill in separate prices for all line items of Works described in the Tender Price Breakdown. Items against which no price is entered by the bidder will not be paid for by the Employer when executed and shall be deemed covered by the other lump sum prices in the Tender Price Breakdown.



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3. All duties, taxes and other levies payable by the bidder under the contract, or for any other cause, as of the closing date for submission of Tender, shall be included in the rates and prices and total Tender.

1.30.6 Currencies of Tender

The lump sum prices and rates shall be quoted in US dollars and/or Euros. Please be sure to specify currency type.

1.30.7 Tender Validity

Tenders shall remain valid and open for a period of 120 calendar days after the date of Tender opening. In exceptional circumstances prior to expiry of the original Tender Validity period, the Employer may request the bidder for a specified extension in the period of validity. The request and the responses thereto shall be made in writing by email. A bidder may refuse the request and withdraw its Tender. A bidder that agrees to the request will not be required or permitted to modify his Tender.

1.30.8 Format and Signing of Tenders

1. The bidder shall prepare one original set of the documents comprising the Tender as described in the Instructions to Bidders.
2. The Tender shall be typed or written in indelible ink and shall be signed by a person or persons duly authorised to bind the bidder to the contract. All pages of the Tender where entries or amendments have been made shall be initialed by the person or persons signing the Tender.
3. The complete Tender shall be without alterations, interlineations or erasures, except those to accord with instructions issued by the Employer, or as necessary to correct errors made by the bidder, in which case such corrections shall be initialed by the person or persons signing the Tender.
4. Only one bid package may be submitted by each bidder. No bidder may participate in the Tender of another for the same contract in any relation whatsoever.

1.40 SUBMISSION OF TENDERS

1.40.1 Sealing and Marking of Tenders

Please submit your tender in a sealed envelope marked "Tender Replacement of Boiler Components" and bearing the name of the tenderer, to the Tender Box at the Ministry of Public Works, located on the 3rd floor of the Post Office Building, 56 Church Street, Hamilton before 3:00 p.m. Atlantic Time on Friday 11th September 2015."

NOTE: Late Tenders will not be considered.



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Attention: Nasir Wade
Ministry of Public Works
Post Office Building
56 Church Street,
Hamilton, Bermuda

The submission should also bear the following identification:
Project No. 31/355/78, Replacement of Boiler Components

1.40.2 Deadline for Submission of Tenders

1. Tenders must be received at the physical address specified above no later than **September 11, 2015 at 3:00 pm Atlantic Time** per the date specified on the Tender Letter.
2. The Employer may, at his discretion, extend the deadline for submission of Tenders by issuing an amendment in which case all rights and obligations of the Employer and the Bidders previously subject to the original deadline shall thereafter be subject to the new deadline as extended.

1.40.3 Late Tenders

Any Tender received by the Employer after the deadline for submission of Tenders prescribed by the “Employer”, will be returned to the bidder.

Modifications and Withdrawal of Tenders

1. The bidder may modify or withdraw his Tender after Tender submission, provided that the modification or notice of withdrawal is received in writing by the “Employer” prior to the prescribed deadline for submission of Tenders.
2. The bidder’s modification or notice of withdrawal shall be prepared, marked and delivered via email to the following email address: procurement@gov.bm for the submission of Tenders which should additionally bear the subject “MODIFICATION” or “WITHDRAWAL” as appropriate.

No Tender shall be modified subsequent to the deadline for submission of Tenders.

1.50 TENDER OPENING AND EVALUATION

1.50.1 Tender Opening

Tenders for which an acceptable notice of withdrawal has been submitted accordingly shall not be opened. The Employer will examine Tenders to determine whether they are complete, whether the requisite Tender Securities have been furnished, whether the documents have been properly signed and whether the Tenders are generally in order.



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Tenders shall be opened after 3:15 pm on September 11, 2015 Atlantic Time.

1.50.2 Process to be Confidential

1. After the opening of Tenders, information relating to the examination, clarification, evaluation and comparison of Tenders and recommendations concerning the award of contract shall not be disclosed to bidders or other persons not officially concerned with such process until the award of the contract to the successful bidder has been announced.
2. Any effort by a bidder to influence the Employer in the process of examination, clarification, evaluation and comparison of Tenders, and in decisions concerning award of contract, shall result in the rejection of the bidder's Tender.

1.50.3 Clarification of Tenders

To assist in the examination, evaluation and comparison of Tenders, the Employer may ask Bidders individually for clarification of their Tenders. The request for clarification and the response shall be in writing via email but no change in the price or substance of the Tender shall be sought, offered or permitted except as required to confirm the correction of arithmetic errors discovered by the Employer during the evaluation of the Tenders.

1.50.4 Determination of Responsiveness

1. Prior to the detailed evaluation of Tenders, the Employer will determine whether each Tender is substantially responsive to the requirements of the Tender documents.
2. For the purpose of this Clause, a substantially responsive Tender is one which conforms to all the terms, conditions and specifications of the Tender documents without material deviation or reservation. A material deviation or reservation is one which affects in any substantial way the scope, quality, or performance of the Works, or which limits in any substantial way, inconsistent with the Tendering documents, the Employer's rights or the bidder's obligations under the contract, and the rectification of which deviation or reservation would affect unfairly the competitive position of other bidders presenting substantially responsive Tenders.
3. If the Tender is not substantially responsive to the requirements of the Tender documents, the Employer reserves the right to request further information to make the Tender fully responsive.

1.50.5 Correction of Errors

Tenders determined to be substantially responsive will be checked by the Employer for any arithmetic errors in computation and summations. Errors will be corrected by the Employer as follows:

1. Where there is a discrepancy between amounts in figures and in words, the amount in words will govern; and
2. Where there is a discrepancy between the individual lump sums and the total amount derived from the sum of the individual lump sums, the individual lump sums as quoted will govern, and the total amount will be corrected.

The amount stated in the Form of Tender will be adjusted by the Employer in accordance with the above



procedure for the correction of errors and, with the concurrence of the bidder, shall be considered as binding upon the bidder. If the bidder does not accept the corrected amount of the Tender, its Tender will be rejected.

1.50.6 Evaluation and Comparison of Tenders

The Employer will evaluate and compare only Tenders determined to be substantially responsive to the requirements of the tendering documents. Tenders will be evaluated under the following high level heading and weighing: Experience and Capacity - 40%, and Financial Analysis - 60%,

The tender assessment will take into consideration the submitted proposal documentation inclusive of the tendered prices; the firm’s qualifications and overall relevant experience in relation to this type of work; and the applicable qualifications and the experience of the team and each team member proposed to be used to undertake the work.

The tender will be evaluated under the following high level criteria headings and weightings:

	Criteria	Weighting
1	Experience & Capability	40%
2	Financial Analysis	60%
	Total:	100%

1.50.7 Tender Matrix Sample

Tenders will be evaluated and scored in accordance with the table below:



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Ministry of Public Works

Tender Ref:	ITEM	CRITERIA	WEIGHTING	SCORES - please see notes & scoring tab			Weighted scores			Comments
				Tender 1	Tender 2	Tender 3	Tender 1	Tender 2	Tender 3	
	1	Experience & Capability:								
	1.1	Does the bidder clearly demonstrate the ability to deliver the requirements of the tender?	10.000%			0.000				
	1.2	Did the bidder offer evidence of experience with projects of a similar technical level?	6.000%			0.000				
	1.3	Did the bidder offer sufficient evidence of experience with completing projects within timescales and budgets?	5.000%			0.000				
	1.4	Is the bidder able to complete the work within the required timescales?	10.000%			0.000				
	1.5	Does the bidder state that they have sufficient, suitably experienced resources available?	5.000%			0.000				
	1.6	Does the bidder have a good track record in Health & Safety?	2.000%			0.000				
	1.7	Were the bidders references positive about their experience of working with the contractor/supplier, and would they use them again?	2.000%			0.000				
	1T	Total Score - Section 1	40%	0.00	0.00	0.00	0.00	0.00	0.00	
	2	Financial Analysis								
	2.1	Tender price (include all costs)	45%			0.00				
	2.2	The bidder is in a stable financial position.	10%			0.00				
	2.3	The bidder has no outstanding Government debt	5%			0.00				
	2T	Total Score - Section 2	60%	0.00	0.00	0.00	0.00	0.00	0.00	

In the Financial Analysis of the tenders, the Employer will consider the lump sum amounts to determine the best value for money in combination with the result of the technical analysis.

The Employer reserves the right to accept or reject any variation, deviation or alternative offer. Variations, deviations, alternative offers and other factors which are in excess of the requirements of the Tendering documents or otherwise result in the accrual of unsolicited benefits to the Employer shall not be taken into account in tender evaluation.

Price adjustment provisions applying to the period of execution of the Contract will be considered in the tender evaluation.

1.60 AWARD OF CONTRACT

1.60.1 Award Criteria

The Employer will award the Contract to the Bidder whose tender has been determined to be substantially responsive to the Tendering documents and who, in the opinion of the Employer, has offered the best proposal taking into consideration the Tender price, the contractor's capability and available resources to carry out the contract effectively and the contractor's construction schedule. This may not be the lowest tender received.



1.60.2 Employer's Right to Accept or Reject Tenders

1. It should be noted that there is a **mandatory site visit stipulation for this project. Failure to participate in the pre-requisite site visit shall render your Tender ineligible and will in course provide grounds for Tender rejection.**
2. The Employer does not bind himself to accept the lowest or any tender and reserves the right to reject any tender and, and to annul the tendering process and reject all Tenders, at any time

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prior to Award of Contract, without thereby incurring any liability to the affected Bidder, or Bidders or any obligations to inform the affected bidder or bidders of the grounds for the Employer's action.

3. The Employer may declare the Tendering process void when it is evident that there is a lack of competition or there has been collusion. All Tenders may be rejected if substantially higher than the budget.

1.60.3 Notification of Award

1. Prior to the expiration of the period of Tender Validity prescribed by the Employer, the Employer will notify the successful Bidder by email or facsimile confirmed in writing by registered letter that his Tender has been accepted. This letter (hereinafter and in the Conditions of Contract called "Letter of Acceptance") shall name the sum which the Employer will pay to the Contractor in consideration of the execution, completion and maintenance of the Works by the Contractor as prescribed by the Contract (hereinafter and in the Conditions of Contract called "the Contract Price").
2. The notification of award in writing will constitute the formation of the Contract.
3. The Employer will promptly notify the unsuccessful bidders that their tenders have been unsuccessful.

1.60.4 Signing of Contract Agreement

1. At the same time that he notifies the successful Bidder that his Tender has been accepted, the Employer will send the Bidder the Form of Agreement provided in the Tendering documents, incorporating all agreements between the parties.
2. Within 14 days of receipt of the Form of Agreement, the successful Bidder shall sign the Form and return it to the Employer.



GOVERNMENT OF BERMUDA
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Scope of Work

Technical Specification
Boiler Furnace Water Walls Unit # 2 Fabrication

Version : 01

Date: 6/2/2015

Prepared by: Nasir Wade

Checked by: LS

Approved by: Tynes Bay Management



Scope of Work

2.10 Boiler Furnace Waterwalls Unit #2 Fabrication

2.10.1 General Concept

As a critical element of the boiler furnace, the water walls must be maintained in an adequate manner in order to supply steam to the turbine in a most efficient and effective manner. Previous UT thickness test and recent inspections have revealed that the existing boiler furnace water tubes for unit # 2 are in need of immediate replacement. Replacement of the furnace water walls (both side walls from the bottom specified connection, up to the ceiling header, a portion of the front and rear wall (see installation details in next section) before the new refractory system is installed. The replacement water wall tubes shall also consist of an additional protective layer of Inconel material for improved lifecycle.

2.10.2 Objective

The objective of the proposed scope of supply is to fabricate the water wall tube assemblies for boiler furnace units 2 **ONLY**. These fabricated water wall panels shall be installed in an effort to maintain safe and efficient operation of the plant facility.

2.10.3 Scope of Supply

- The contractor shall be responsible for water wall fabricated for boiler Unit # 2 **ONLY**
 - The selected manufacturer of the water walls tubes shall be reputable and have extensive experience in supplying such materials to a high quality and standard
 - Ensure manufactured water wall tubes are in accordance with approved engineering drawings and specifications



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- Ensure that fabricated tubes/ tube sections allow for ease of installation
- Perform all necessary quality control and quality assurance in accordance with ASME standards and guidelines or equivalent
- Ensure specified material is utilized for water walls and that appropriate thicknesses of tubes is adhered to through certification documentation and testing certifications per industry guidelines and standards
- All replacement fabricated water wall tubes shall have an overlay of Inconel material for added protection
 - Inconel coating shall only be placed on the tube material that shall be exposed to the most heat within the furnace (i.e. half of the water wall tube)
 - Inconel coating shall not be placed on the membrane section of the tube
- Boiler furnace water wall tubes should be securely transport from manufacturer to Bermuda utilizing adequate packaging and protection techniques
 - Before transport all openings and tube endings etc. have to be sealed with a closing cap
 - Membrane tube walls are covered with a transportation coating the sea transport
 - The water wall tubes shall be assembled in the shop per the specifications. Suitable measures should be taken to ensure proper packaging for freight transport as to prevent damage during handling, shipment and storage

2.10.4

Specification

- Tube material should be following per ASTM, EU, SS or equivalent. Use of any non-approved material shall be grounds for rejection of work

Materials Equivalent Table



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SS Standard	DIN	USA ASTM
SS 1330-15	St 35.8 / III	A 192
SS 1330 -16	St 37.8 / III	**

** See Drawings and documentation provided for area specific details
If alternate material is to be provided this should be specifically stated and presented during bid submission.

**Authorization should be sort from designated Project Engineer or Technical Representative for use of non-listed material alternatives

- The furnace water walls shall be fabricated for ease of installation without the use of a crane
 - The water walls should be fabricated in sections that allow for easier handling
 - The membrane walls are to be delivered in lengths of 6 meters maximum of as to account for ease of installation and transport within a 20ft container to site
- Inconel coating shall have the following material and application specifications
 - Inconel 625 shall be utilized for a factory coating
 - A minimum of 2 mm film thickness of Inconel shall be utilized for the layer

2.10.5 General Information

Drawing References (See Appendix for detailed drawings)

Existing Drawing Reference	Drawing No. / Identification
Right Sidewall	324-4080
Left Sidewall	324-4081
Right Sidewall (Rear)	324-4082
Left Sidewall (Rear)	324-4083
Frontwall	324-4084
Rearwall	324-4085



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Scope of Work

Technical Specification
Boiler Furnace Water walls Unit #2 Installation

Version : 01

Date: 6/2/2015

Prepared by: Nasir Wade

Checked by: LS

Approved by: Tynes Bay Management



Scope of Work

2. 20 Boiler Furnace Waterwalls Unit # 2 Installation

2.20.1 General Concept

As a critical element of the boiler furnace, the water walls must be maintained in an adequate manner in order to supply steam to the turbine in a most efficient and effective manner. Previous UT thickness test and recent inspections have revealed that the existing boiler furnace water tubes for unit # 2 are in need of immediate replacement. Replacement of the furnace water walls (both side walls from the bottom specified connection, up to the ceiling header + a portion of the front and rear wall...see installation details in next section) before the new refractory system is installed. The replacement water wall tubes shall also consist of an additional protective layer of Inconel material for improved lifecycle where appropriate.

2.20.2 Objectives

The objective of the proposed scope of work is to replace select existing water wall tubes for boiler unit # 2, in an effort to maintain safe and efficient operation of the plant facility.

2.20.3 Scope of Work

Contractor shall provide all supervision, labor, equipment and materials necessary to accomplish work as described herein unless specifically specified in **Employer Provision** section. Contractor shall perform the following in reference to both boiler units:

- Furnace cladding and insulation is to be removed as necessary for water wall replacement
- Refractory tiles shall be removed for front, back and side walls in accordance with section 10



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- Existing side wall tubes shall be removed by cutting at the tile refractory line at the bottom and cutting into the header at the top of the furnace
 - Side water wall tubes shall be replaced with prefabricated panel replacements

- Front wall water wall tubes shall be replaced from the 17.0 meter elevation
 - Remove front wall water tubes from the 17.0 elevation level to the ceiling header

 - Cuts shall be made for stub connection at the bottom and directly into the header at the top furnace ceiling

- The twelve additional water wall tubes in the convection area/screen tube section shall also be replaced
 - Remove the refractory on the top and bottom headers. (See details for headers below)

 - These tubes shall be replaced directly at the top and bottom headers

 - These tubes shall also have a layer of Inconel overlay on the exposed area of the tube section

 - No Inconel is necessary on the membrane section of the tube

- The top header for the twelve tubes shall be replaced. **The existing bottom header shall remain in place. The bottom header is NOT to be replaced**
 - Remove the entire top header of the convection sector near the screen tube area

 - Replace the entire header with a new header pipe

 - Weld in place the twelve tubes in accordance to prescribed and approved welding methods

 - Refractory material shall be replaced on both the top and bottom headers in this area



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- Both noses (bent tubes on front and rear walls shall **NOT BE REPLACED** as part of the above replacement works
 - A tie in connection shall be made to the existing tubes at approximately the 17m level
 - The water wall tubing of the front wall ceiling above 1st grate zone shall **NOT BE REPLACED** and the header shall remain the same
 - The water wall tubing of the rear wall ceiling above 3rd & 4th grate zone shall **NOT BE REPLACED** and the header shall remain the same
- All probes and measuring ports are to be replaced
 - Remove existing ports and measuring devices
 - Replace all ports and measuring devices for furnace
- The two side access doors in the furnace area shall be replaced
- All tube welds shall be tested
 - Perform dye penetrant testing on all welded tube connections
 - Welding penetrant testing shall be visually verified by third party consultant supplied by Tynes Bay
 - Prior to refractory replacement, A hydro test of the water walls shall be carried out. Hydro test should be carried out at 1^{1/2} times the normal operating pressure
 - Hydro test shall be witnessed by third party consultant supplied by Tynes Bay
- After all water wall tubes have been replaced and pass hydro test, new tile refractory shall be installed in accordance to section 10
- Replacement of Boiler insulation wool material shall be accomplished



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- Cladding shall be reinstalled once all work is complete

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Scope of Work

Technical Specification
Superheater I Supply and Installation

Version : 01

Date: 6/2/2015

Prepared by: Nasir Wade

Checked by: LS

Approved by: Tynes Bay Management



Scope of Work

2.30 Superheater I Supply and Installation

2.30.1 General Concept

Superheater I consists of rows of tube that aid in the creation of superheated steam used for thermal processing. According to ultrasonic thickness surveys carried out during previous maintenance work, several tubes have shown to be worn and require immediate replacement in order to maintain acceptable and safe standards.

Specifically the first three rows of tubes have previously been designated for replacement. These tubes shall be replaced as a fixed cost to “The Employer”

Inspection and testing of the all additional rows of tubes which make up the Superheater I is necessary. Ultrasonic Testing (UT) for metal thickness will be required on the remainder of the tubes.

In the event that additional tubes are found to be below acceptable thickness standards, the tubes shall be removed and replaced. Thus, additionally material shall be supplied in the event of a variation outside of the initial three (3) row replacement tubes.

2.30.2 Scope of Work

Contractor shall provide all supervision, labor, equipment and materials necessary to accomplish work as described herein unless specifically specified in **Employer Provision of Section 8.10**. Contractor shall perform the following in reference to both boiler units:

- Access to the Superheater II bundles for boiler units 1 and 2 shall be established
- The thickness of the **first three (3) rows** of tube is known and the following deliveries and works are included in the tender:
 - Remove all tubes in the first three (3) rows for exchange



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- When removing tubes, they should be cut in manner to allow connection to a stub end for replacement. Special care should be taken to ensure adequate material is left for welding connections
- Replace all tubes in the first three (3) rows fully with new tube material and additional tubes only as necessary for both boiler units 1 and 2
- Material preparation for welded connections should follow ASME code and best practices for Boiler and Pressure Vessels
- All connection welds are to be tested and verified (see quality control & quality assurance section 13.10.4 for details)
- The thickness of the additional Superheater I rows are not previously known and therefore the following deliveries and works are included in the tender:
 - The contractor shall perform a UT thickness test on all other rows of tubes within the loop
 - Every fourth tube should be tested in each row for inspection
 - Each individual tube shall be tested at a minimum of three points (top, middle and bottom)
 - If a tube thickness is below acceptable standard, it should be noted and brought to the attention of the Tynes Bay Waste to Energy Management
 - All supplemental work must receive permission prior to starting installation
 - Readings shall be provided in a brief report format



- In the event that a tube is found to be below acceptable rated value per Boiler Code, the tube should be designated for removal and replacement under the previously described guidelines

2.30.3 Scope of Supply

- The contractor shall stock and supply to site, additional material of 50% of complete Superheater I tube materials for boiler unit 1 and 20% complete material for unit 2 to prepare for additional tube replacements.
- Contractor shall verify with drawing, the number of tubes in loop to ensure that the additional material is accounted for and provided. Replacement of the additional tube is not a part of this tender and shall be deemed supplementary work if required
- All unused replacement tube and tube materials shall be handed over to “The Employer” as reserve stock for future work after completion of installation works
- All Superheater I tubes that have been replaced shall be UT thickness tested post installation. This measurement shall be recorded as a base measurement and supplied to “The Employer”
- An updated UT thickness mapping of the Superheater I tubes shall be created and supplied to “The Employer”

2.30.4 Specifications

2.30.4.1 Materials

- Replacement tube material shall be in accordance with documented specifications provided below
 - Seamless ferritic alloy steel tube for high-temperature service shall be utilized
 - Superheater I tube replacement should be the following per ASTM, EU SS or equivalent Use of any other material shall be grounds for rejection of work.



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- Tube material shall be made of **SA213 T12**

2.30.4.2

General

- All work shall be performed in accordance to a Ministry of Public Works Boiler Inspector Representative
- Welding work shall be performed by a certified licensed high pressure welder in accordance to ASME and EU standards
- All work carried out must be in accordance with associated drawings and documentation that shall be supplied from vendors and/or “The Employer”
 - Clarification on any misunderstood drawings should be brought to the attention of the project manager/engineer and presented as soon as possible for a decision to be made
- All welding work shall be performed in accordance with approved welding specification procedure and procedure qualification record (see section 13.10.4 for quality control and quality assurance details)



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Scope of Work

Technical Specification
Superheater II Supply and Installation

Version : 01

Date: 6/2/2015

Prepared by: Nasir Wade

Checked by: LS

Approved by: Tynes Bay Management



Scope of Work

2.40 Superheater # 2 Supply and Installation

2.40.1 General Concept

Superheater II consists of rows of tube that aid in the creation of superheated steam used for thermal processing. According to ultrasonic thickness surveys carried out during previous maintenance work, several tubes have shown to be worn and require immediate replacement in order to maintain acceptable and safe standards.

Specifically the first three rows of tubes have previously been designated for replacement. These tubes shall be replaced as a fixed cost to “The Employer”

Inspection and testing of the all additional rows of tubes which make up the Superheater II is necessary. Ultrasonic Testing (UT) for metal thickness will be required on the remainder of the tubes.

In the event that additional tubes are found to be below acceptable thickness standards, the tubes shall be removed and replaced. Thus, additionally material shall be supplied in the event of a variation outside of the initial three (3) row replacement tubes.

2.40.2 Scope of Work

Contractor shall provide all supervision, labor, equipment and materials necessary to accomplish work as described herein unless specifically specified in **Employer Provision of Section 8.10**. Contractor shall perform the following in reference to both boiler units:

- Access to the Superheater II bundles for boiler units 1 and 2 shall be established
- **Boiler Unit 1-** The thickness of the **a portion of the rows** of tube is known and the following deliveries and works are included in the tender:
 - Remove all tubes in the first three (3) rows fully for Boiler Unit # 1
 - Remove all tubes in the first (1st) row fully for Boiler Unit #2



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- When removing tubes, they should be cut in manner to allow connection to a stub end for replacement. Special care should be taken to ensure adequate material is left for welding connections
- Additional individual tubes shall be replaced only as necessary for both boiler units 1 and 2.
- Material preparation for welded connections should follow ASME code and best practices for Boiler and Pressure Vessels
- The thickness of the additional Superheater II rows are not previously known and therefore the following deliveries and works are included in the tender:
 - The contractor shall perform a UT thickness test on all other rows of tubes within the loop
 - Every fourth tube should be tested in each row for inspection
 - Each individual tube shall be tested at a minimum of three points (top, middle and bottom)
 - If a tube thickness is below acceptable standard, it should be noted and brought to the attention of the Tynes Bay Waste to Energy Management
 - All supplemental work must receive permission prior to starting installation
 - Readings shall be provided in report format
 - In the event that a tube is found to be below acceptable rated value per Boiler Code, the tube should be designated for removal and replacement under the previously described guidelines



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2.40.3 Scope of Supply

- The contractor shall stock and supply to site, 20% of complete Superheater II tube materials for boiler unit 1 and 2 as to prepare for additional tube replacements. Contractor should verify with drawing, the number of tubes in loop to ensure that the additional 20% is accounted for and provided
- Replacement of the additional tube is not a part of this tender and shall be deemed supplementary work if required
- All unused replacement tube and tube materials shall be handed over to “The Employer” as reserve stock for future work after completion of installation works
- All Superheater II tubes that have been replaced shall be UT thickness tested post installation. This measurement shall be recorded as a base measurement and supplied to “The Employer”
- An updated UT thickness mapping of the Superheater II tubes shall be created and supplied to “The Employer”

2.40.4 Specifications

2.40.4.1 Materials

- Replacement tube material shall be in accordance with documented specifications provided below
 - Seamless ferritic alloy steel tube for high-temperature service shall be utilized
 - Superheater II tube replacement should be the following per ASTM, EU SS or equivalent. Use of any other material shall be grounds for rejection of work



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Ministry of Public Works

- Tube material shall be made of **SA213 T12**

2.40.4.2 General

- All work shall be performed in accordance to a Ministry of Public Works Boiler Inspector Representative
- Welding work shall be performed by a certified licensed high pressure welder in accordance to ASME and EU standards
- All work carried out must be in accordance with associated drawings and documentation that shall be supplied from vendors and/or “The Employer”
 - Clarification on any misunderstood drawings should be brought to the attention of the project manager/engineer and presented as soon as possible for a decision to be made
- All welding work shall be performed in accordance with approved welding specification procedure and procedure qualification record (see section 13.10.4 for quality control and quality assurance details)



GOVERNMENT OF BERMUDA
Ministry of Public Works

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Tynes Bay Waste to Energy Facility

Scope of Work

Technical Specification
Boiler Furnace Evaporator I Supply & Installation

Version : 01

Date: 6/17/2015

Prepared by: Nasir Wade

Checked by: LS

Approved by: Tynes Bay Management



Scope of Work

2.50 Boiler Furnace Evaporator I Supply & Installation

2.50.1 General Concept

As a critical element of the boiler furnace, the evaporator I bank of tubes must be maintained in an adequate manner in order to supply steam to the turbine in a most efficient and effective manner. Previous UT thickness test and recent inspections have revealed that the existing boiler furnace evaporator tubes in the front section for units 1 and 2 are in need of replacement, as well as a few rows of tubes in the rear section in both units 1 and 2.

A section of evaporator I tubing requires individual row replacement. Additional UT thickness testing is required to ascertain the state of other rows of tubing. The contractor shall be required to supply additional materials in the event that further replacement of tubing is deemed necessary.

2.50.2 Scope of Supply

The contractor shall be responsible for supply of all material, equipment and labour for the supply and installation of the evaporator II tube for both boiler unit #1 & #2

- Supply of evaporator I tube material for replacement. These individual tubes are to be replaced one by one
 - From the UT readings, the first three (3) rows shall be replaced fully and additional single pipes only as necessary for boiler unit # 1 and unit # 2. As seen in the detailed diagram, each row consist of 19 straight pipes
 - The collectors shall remain unchanged
 - When removing tubes, they should be cut in manner to allow connection to a stub end for replacement. Special care should be taken to ensure adequate material is left for welding connections



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- Additional tube material shall be supplied as a part of this tender for units 1 and 2. Contractor shall supply the following
 - Tube/pipe material for four (4) rows of the small bank
 - Tube/Pipe material for four (4) of rows of the large bank
- The replacement of the additional tube material is not a part of the tender and shall be handled as supplementary works if required
- Perform UT thickness readings for verification testing of additional tube for supplemental installation work
 - Every fourth tube should be tested in each row for inspection
 - Each individual tube shall be tested at a minimum of three points (top, middle and bottom)
 - If a tube thickness is below acceptable standard, it should be noted and brought to the attention of the Tynes Bay Waste to Energy Management
 - All supplemental work must receive permission prior to starting installation
 - Readings shall be provided in report format
- Perform all necessary quality control and quality assurance in accordance with ASME standards and guidelines or equivalent
 - Perform all non-destructive examination and hydro testing as per ASME and EU guidelines. Hydro shall specifically be tested at 1 ½ times the design pressure
 - Final Inspection shall be performed by Independent Authorized Agency
 - All relevant inspection reports shall be passed on to “The Employer” and/or “The Employer’s designated representative



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- Provide all test certificates for material standards and testing
- Liases with client's independent QA inspector for site visits and provide any and all documentation required
- Boiler evaporator tubes should be securely transported from manufacturer to Bermuda utilizing adequate packaging and protection techniques
 - Before transport all openings and tube endings etc. have to be sealed with a closing cap. Ends prepared for field welding shall be protected with a coat of deoxaluminat and sealed with tape/cape providing a water tight seal
 - Suitable measures should be taken to ensure proper packaging for freight transport as to prevent damage during handling, shipment and storage

2.50.3 Design Specification

- All fabrication shall be in accordance with the latest of the ASME Boiler and Pressure Vessel Code Section I (Power Boilers) and industry standards.
- The evaporator tube lengths shall be fabricated according to the specification drawings and documents provided (See documents 325-1027 and 4 0233)
 - Care and attention should be given to tube dimensions
 - Appropriate materials should be utilized in accordance to specified documents
- All welders shall be certified high pressure welding specialist with designated credentials and certifications which correlate to North American and EU standards



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2.50.4 Material Specification

- The current evaporator bundle material is US-ASTM **SCH80 SA106B**. Chosen material shall meet EU and ASTM standard or equivalent. See documentation for details
- Contractor shall be review drawings provided as to quantify the amount of material needed for the replacement work
- Additional evaporator pipe material should be supplied in accordance to the scope of supply section 10.10.2



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Scope of Work

Technical Specification
Boiler Furnace Evaporator II Supply & Installation

Version : 01

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Checked by: LS

Approved by: Tynes Bay Management



Scope of Work

2.60 Boiler Furnace Evaporator II Supply & Installation

2.60.1 General Concept

As a critical element of the boiler furnace, the evaporator II bank of tubes must be maintained in an adequate manner in order to supply steam to the turbine in a most efficient and effective manner. Previous UT thickness test and recent inspections have revealed that the existing boiler furnace evaporator tubes in the front section for units 1 and 2 are in need of replacement, as well as a few rows of tubes in the rear section in both units 1 and 2.

A section of evaporator II tubing requires individual row replacement. Additional UT thickness testing is required to ascertain the state of other rows of tubing. The contractor shall be required to supply additional materials in the event that further replacement of tubing is deemed necessary.

2.60.2 Scope of Supply

The contractor shall be responsible for supply of all material, equipment and labour for the supply and installation of the evaporator II tube for both boiler unit #1 & #2

- Supply of evaporator II tube material for replacement. These individual tubes are to be replaced one by one
 - From the UT readings, the first three (3) rows shall automatically be replaced for boiler unit # 1 and unit # 2
 - The collectors shall remain unchanged
 - When removing tubes, they should be cut in manner to allow connection to a stub end for replacement. Special care should be taken to ensure adequate material is left for welding connections



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- Additional tube material shall be supplied as a part of this tender for units 1 and 2. Contractor shall supply the following
 - Tube/pipe material for four (4) rows of the small bank
 - Tube/Pipe material for four (4) of rows of the large bank
- The replacement of the additional tube material is not a part of the tender and shall be handled as supplementary works if required
- Perform UT thickness readings for verification testing of additional tube for supplemental installation work
 - Every fourth tube should be tested in each row for inspection
 - Each individual tube shall be tested at a minimum of three points (top, middle and bottom)
 - If a tube thickness is below acceptable standard, it should be noted and brought to the attention of the Tynes Bay Waste to Energy Management
 - All supplemental work must receive permission prior to starting installation
 - Readings shall be provided in report format
- Perform all necessary quality control and quality assurance in accordance with ASME standards and guidelines or equivalent
 - Perform all non-destructive examination and hydro testing as per ASME guidelines. Hydro shall specifically be tested at 1 ½ times the design pressure
 - Final Inspection shall be performed by Independent Authorized Agency
 - All relevant inspection reports shall be passed on to “The Employer” and/or “The Employer’s designated representative



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- Provide all test certificates for material standards and testing
- Liases with client's independent QA inspector for site visits and provide any and all documentation required
- Boiler evaporator tubes should be securely transported from manufacturer to Bermuda utilizing adequate packaging and protection techniques
 - Before transport all openings and tube endings etc. have to be sealed with a closing cap. Ends prepared for field welding shall be protected with a coat of deoxaluminatate and sealed with tape/cape providing a water tight seal
 - Suitable measures should be taken to ensure proper packaging for freight transport as to prevent damage during handling, shipment and storage

2.60.3 Design Specification

- All fabrication shall be in accordance with the latest of the ASME Boiler and Pressure Vessel Code Section I (Power Boilers) and industry standards
- The evaporator tube lengths shall be fabricated according to the specification drawings and documents provided
 - Care and attention should be given to tube dimensions
 - Appropriate materials should be utilized in accordance to specified documents
- All welders shall be certified high pressure welding specialist with designated credentials and certifications which correlate to North American and EU standards



2.60.4 Material Specification

- The current evaporator bundle material is US-ASTM **SCH80 SA106B**. Chosen material shall meet EU and ASTM standard or equivalent. See documentation for details
- Contractor shall be review drawings provided as to quantify the amount of material needed for the replacement work
- Additional evaporator pipe material should be supplied in accordance to the scope of supply section 10.10.2



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Tynes Bay Waste to Energy Facility

Scope of Work

Technical Specification
Refractory System & Brick Work

Version : 01

Date: 6/2/2015

Prepared by: Nasir Wade

Checked by: LS

Approved by: Tynes Bay Management



Scope of Work

2.70 Refractory System & Brick Work

2.70.1 General Concept

The refractory system shall protect the boiler water walls from the hot and corrosive gas from the combustion process. The surface shall stay as cool as possible to prevent bigger build-ups of clinker and to get a good heat transfer to the boiler walls behind the refractory. In the lower part above / beside the grate, it shall also protect the boiler walls from normal wear and tear of the refuse.

The existing water walls underneath the refractory system have occasionally been exposed to fire and flue gas as a result of wear of the bricking system and its components thus causing a few leaks to occur. Thickness measurements have been taken for the water walls and it has been decided to replace all the water walls for unit # 2 before the new refractory system is applied.

The existing refractory system is a "tile" system and the Tynes Bay Facility management has opted to continue with this specific type of system. The current system is manufactured by J&G and should be utilized for replacement supply.

2.70.2 Scope of Supply

Per the request from The Employer, a tile system shall be utilized for the replacement of the refractory system.

The following works shall be executed:

- The contractor shall procure the preferred tile system from J+G (Jünger+Gärter) Refractories
 - The bolted tile system shall meet or exceed the specifications currently utilized in the boiler furnaces.
 - Inconel pins shall be utilized for securing tiles



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- The refractory on the vertical boiler walls (front, rear and both side walls) requires complete replacement
 - The refractory protection shall be applied in the entire refractory area, especially also on the elevations around the secondary nozzles.
 - The tiles shall be applied to the boiler walls by special holding device, welded to the flat bars (membranes) between the boiler tubes.
 - The specialized holding devices should comprise of Inconel coated pins for improved durability.
 - Special refractory mastic shall be used to connect the tiles to the water walls.
 - The upper part shall be executed in the same manner as described above.
 - A top capping system shall be applied to the refractory system as a measure to improve refractory durability
 - The final elevation line of total refractory system shall remain the same even with the inclusion of the capping system. The elevation line shall not become any lower or higher than currently exist. Tiles should be adjusted to meet this requirement
 - Special attention should be given to expansion joints in the water wall design and installation



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2.70.3 Design Requirements

Particular attention should be paid to the following:

- All refractory materials shall be procured through our standard refractory manufacturer J+G Refractories
- All refractory works shall be installed by an experienced J+G Refractories tile installer as to ensure proper execution of their tile network
- Any boiler works shall be executed by an experienced, certified boiler company
- The refractory system installed, including the new capping arrangement shall extend the availability of the furnace between refractory maintenance
- The tiles shall be applied to the boiler walls by holding devices, welded to the flat bars (membranes) between the boiler tubes and not the tubes themselves
- Inconel coated pins are to be utilized for the bolt tile system



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Government of Bermuda
Tynes Bay Waste to Energy Facility

General Provisions

Version : 01

Date: 6/2/2015

Prepared by: Nasir Wade

Checked by: LS

Approved by: Tynes Bay Management



General Provisions

3.10 Employer Provided Provisions

1. Scaffolding
2. Staging area close to work area
3. Use of forklift for loading/unloading equipment
4. Waste dumpsters close to work area for debris materials
5. 480V/3-phase power as required close to work area
6. 110V/single-phase power as required close to work area
7. Onsite drinking water
8. Use of onsite toilet facilities
9. Site specific safety training, if required

3.20 Worksite Location & Requirements

- All work shall be performed on-site at the Tynes Bay Waste to Energy Facility.
- Only areas designated for lay down areas shall be utilized for storage of materials and equipment. A site plan shall be provided in the package
- All contractors and sub-contractors shall comply with site safety regulations, protocols and operational requirements. Tynes Bay Waste to Energy management reserves the right to remove any individual from the site due to failure of compliance, at the contractor's expense
- All workers including subcontractors shall undergo a safety orientation with the onsite Health & Safety personnel prior to initiating work at the facility
- All workers shall comply with safety regulations in reference to appropriate clothing and safety equipment. Contractor shall be responsible for ensuring that their personnel are properly attired and equipped in accordance with Plant Safety regulations. This includes but not limited to the following:



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- Safety helmet
- Steel toe safety shoes
- Safety eyewear
- Long pants and shirts
- Hearing protection as required

3.30 General Contractor Conditions

- The window for execution of the work scope shall be scheduled in two parts:
 - a. Part 1- Boiler Stream Unit #1 – Dates TBD
 - b. Part 2 – Boiler Stream Unit # 2 -Dates TBD
- This date is subject to change in accordance to facility needs. Work shall coincide with scheduled unit shutdowns. All equipment, materials and consumables must be shipped to arrive on island at least one (1) week prior to commencement of the works. All work shall be performed in accordance with designated outage time. Contactor shall perform work on each boiler stream one unit at a time (Please Note Scheduled Dates Above). Under this contract, all work shall be complete within seven 120 calendar days once physical labor has commenced for each boiler unit.
- It shall be the responsibility of the contractor prior to bidding this job, to seek clarification to any unclear items on the specification documentation and inform themselves of existing site conditions. Failure to do so will in no way relieve the successful contractor from work that may be required to carry out the terms of the contract, in accordance with the true intent and meaning of the specifications at no additional cost to the Bermuda Government.
- The contractor employees and all subcontractors working under the supervision of the contractor shall comply with all security regulations, and shall sign in and out daily with Operations Department at the designated area. The contractor shall submit to the Bermuda Government Project Engineer or designated representative a list of people who will be working for him/her in the plant at least one (1) week in advance of their entry into the plant. This list must include each person's name, company affiliation and position/relation to the contractor's business.



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- The contractor must inform his/her employees of the working conditions and the possible safety implications. The contractor shall ensure that his/her employees follow all Tynes Bay Waste to Energy Facility Safety and Work regulations and the contractor shall ensure sound engineering methods in the repairs of these areas.
 - The contractors will also be responsible for maintaining a safe, clean and organized work area as to ensure safe operational conditions for plant personnel. All equipment and materials shall be stored in an organized manner in the designated area unless permission to do otherwise has been approved by the Government Project Engineer/Manager or designated plant representative.
 - The contractor shall be responsible for correcting any abnormal conditions that are a result of the contractor or subcontractor (contracted by the contractor) actions. The Bermuda Government can elect to have the contractor correct the problem or back charge the contractor for all expenses incurred to correct the problem. This includes but not limited to clean up of materials left behind when applicable.

3.40 Quality Control & Quality Assurance

- Contractor shall perform all work related scope within the design specifications provided.
- Contractor shall provide and ensure all Quality Control and Quality assurance measures for related welding work are adhered to in accordance with Welding Procedure Specifications which have been previously reviewed and approved by Bermuda Government designated representative.
- Contractor shall provide R-stamp Welding Certification or Local Equivalent
- Contractor shall provide a materials certificate of compliance for Governmental review prior to installation work. Government designated representatives shall review and approve all materials used prior to installation.
- Contractor shall ensure that all welding setups and work is witnessed by Bermuda Government designated Quality Assurance representative.



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- Government designated representative shall provide final acceptance and approval of all welded joints.
- Contractor shall perform Non Destructive Testing (NDT) using 100% Dye Penetrant Inspection (DPI) of welded joints in the presence of Government designated representative.
- All boiler work should be inspected by approved licensed pressure vessel personnel
- Contractor shall comply with testing procedures as outlined by OSHA Pressure Vessels Testing Procedures



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Tynes Bay Waste to Energy Facility

Form of Tender

Version : 01

Date: 6/2/2015

Prepared by: Nasir Wade

Checked by: LS

Approved by: Tynes Bay Management



4.10 FORM OF TENDER

TENDER TO: The Government of Bermuda, Ministry of Public Works

- 1. We confirm that we have submitted a bona fide Tender, intended to be competitive and we have not fixed or adjusted our Price by or under or in accordance with any agreement or arrangement with any other bidder.
- 2. Having examined the Instruction to Bidders, Conditions of Contract, site specific information, the Drawings and Specifications, and Addenda Nos. inclusive for the execution of the above named Works, we, the undersigned, offer to execute and complete the whole of the said works and remedy any defects therein in conformity with the Conditions of Contract, Specifications, Drawings, and Addenda for the lump sum of

_____ (words)

_____ (figures)

- 3. We consent to the collection and use of the information we give to the Government of Bermuda in response to the solicitation document and agree to waive any right to challenge any decision made by the Government to disclose the information.
- 4. We acknowledge that both the Appendix and Form of Tender form part of our Tender.
- 5. We undertake, if our Tender is accepted, to commence the Works as soon as is reasonably possible after the receipt of notice to commence, and to complete the whole of the Works comprised in the Contract within the time stated in the Appendix to the Tender.
- 6. We confirm that our Tender shall remain open for acceptance by the Government of Bermuda for a period of 120 working days from the date of this undertaking and we shall not withdraw this Tender during this period.
- 7. Unless and until a formal Agreement is prepared and executed this Tender, together with your written acceptance thereof, shall constitute a binding contract between us.
- 8. We understand that you are not bound to accept the lowest or any tender that you may receive.
- 9. We confirm having received and complied with addenda number _____ to _____ (if any).
- 10. We confirm that we, the undersigned, are conducting business as a proper legal entity and are not delinquent in making payments for outstanding debts for Government receivables such as Social Insurance contributions, Payroll Tax and Public Works (formerly Works & Engineering) fees.

Submittal Details

- a. Submit for approval, Non Destructive Test (NDT) operator certification documentation. NDT Operator shall be required to hold PCN level 2 or ASNT level 2 Certification.
- b. Contractor shall submit for review, a Materials Certification of Compliance
- c. Submit for approval, Welding Procedure Specification for work outlined in scope prior to



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- commencing any work
- d. Submit for approval, Procedure Qualification Record for work outlined in scope prior to commencing any work
- e. Submit for approval, Current unexpired R-stamp Welding Certification or Local Equivalent

Along with pricing for the line items in section **Pricing**, response should include the following information:

Form of Tender continuation

- a. Submit Welder approval Certification for person and/or persons who will be designated to perform all welding work
- b. Contractor shall submit for approval, tube material specification documentation prior to purchasing to Government of Bermuda Project Engineer.
- c. A schedule for the entire work scope in Gantt chart format. Gantt chart shall illustrate unit 1 work and unit 2 work appropriately
- d. Intended crew size and make up e.g. number of supervisors, foremen, pipe fitters, QC/QA inspectors etc.
- e. Intended shift schedule e.g. hours per shift

Dated this _____ day of _____,

SIGNED:

(signature) _____ in the capacity of _____

(block letters) _____

Duly authorized to sign tenders for and on behalf of:

(firm) _____

(address) _____

WITNESS:

(signature) _____

(block letters) _____

Occupation _____



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Tynes Bay Waste to Energy Facility

Appendix I

Version : 01

Date: 6/2/2015

Prepared by: Nasir Wade

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Approved by: Tynes Bay Management



4.20 Appendix to Form of Tender

This Appendix forms part of the Tender. The Contractor shall ensure the following information is completed before submitting the bid and include this Appendix with the Tender Submission. See the Form of Contract for referenced Sub-Clauses.

The Contract will comprise:

1. FIDIC Document (1999)

The articles shall be completed as follows:

Sub-Clause	Item	Data
Article 2	Date of Commencement and Substantial Completion	
2.1	Date of Commencement	Within 7 days of the acceptance of tender
2.2	Substantial Completion	To be confirmed
2.3	Liquidated Damages	\$100 per calendar day
Article 3	Contract Sum	
3.1	Contract Sum	To be confirmed
3.2	Alternates to Contract Sum	Not required
3.3	Unit Prices	To be confirmed
Article 4	Payments	
4.1.1	Applications for Payment	To be confirmed
4.1.2	Payment Dates	Within 28 days of receipt of application
4.1.3	Interest Rate	Not applicable
4.2.2	Final Payment	1 year from substantial completion
Article 6	Enumeration of Contract Documents	
6.1.2	Supplementary and other Conditions of Contract	Not Applicable
6.1.3	Specifications	Noted on drawings & Schedules
6.1.4	Drawings (included in tender documents)	
6.1.5	Addenda	As required
6.1.6	Other documents	As required
Article 24	Appendices	
24.1.1	Contract Administration	Maintenance/Project Engineer
24.2.1	Mediation	The Chartered Institute of Arbitrators
24.3.1	Arbitration	The Chartered Institute of Arbitrators
24.4.1	Retainage	10% up to substantial completion 5% for the duration of the warranty period (1 year)
24.4.2	Reduction or Limitation of Retainage	Not required
24.5.1	Insurance Liability	



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24.5.1.1	Workmen's Compensation	As required by Bermuda Law
24.5.1.2	Employer's Liability	\$1,000,000
24.5.1.3	General Liability	\$250,000
24.5.1.4	Collapse	Not Required
24.5.1.5	Automotive Liability	
	.1 Bodily Injury	\$500,000
	.2 Property Damage	\$250,000
24.5.1.6	Property Insurance	Value of work
	Including Building Contents	Not applicable
	Replacement Cost Allowance	15% of the Contract Sum
26.6	Allowances	Not applicable
26.7	Work to be carried out by owner or by separate Contractors.	Not Applicable
24.8	Nominated Subcontractors	Not applicable
24.9	Nominated Suppliers	Not applicable
24.10	Materials to be supplied by owner	Not applicable
	Special Conditions	
	Warranty period (Article 9.4)	1 year for the whole of the works



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Acknowledgement Letter for Standard Form of Agreement between Owner & Contractor

This is to certify that I, _____ (name), in the position of _____ hereby acknowledge that I am aware of the terms and conditions of the attached Draft FIDIC Contract.

I acknowledge that the following documents have been provided in the Tender Package and at the date of this submission I have no issue with the terms and conditions of this agreement.

1. FIDIC Document General Conditions - 1999

Signed: _____

Date: _____



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Tynes Bay Waste to Energy Facility

Appendix I

Certificate of Confirmation of Non-Collusion

Version : 01

Date: 6/2/2015

Prepared by: Nasir Wade

Checked by: LS

Approved by: Tynes Bay Management



4.30 Certificate of Confirmation of Non-Collusion

The essence of Open Tendering is that the Government of Bermuda shall receive bona fide competitive Tenders from all persons tendering. In recognition of this principle, all companies submitting a tender will be required, by way of the signature of the Company Principal, to make the undertakings specified below, that the tender has been submitted without any form of collusion.

This Certificate of Confirmation of Non-Collusion is a mandatory requirement from all bidders. Any bids submitted which do not include a signed copy of the Certificate will be wholly rejected and will not be included in the evaluation process.

If it is later found that the undertakings made below have been breached at any stage of the process, the bidder will be expelled from the process immediately. In the event that this is discovered after a contract award, legal action may be taken against the bidder and/or any party involved in the matter.

False submissions may also exclude the bidder, and any other person or company involved in collusion, from bidding for future contracts tendered by the Government of Bermuda.

Confirmation of non-collusion

I/We certify that this is a bona fide Tender, intended to be competitive and that I/We have not fixed or adjusted the amount of the Tender or the rates and prices quoted by or under or in accordance with any agreement or arrangement with any other person.

I/We confirm that we have not received any information, other than that contained within the tender pack, or supplementary information provided to all bidders.

I/We also certify that I/We have not done and undertake that I/We will not do at any time any of the following acts:

- (a) communicating to a person other than the tender administrator the amount or approximate amount of my/our proposed Tender (other than in confidence in order to obtain quotations necessary for the preparation of the Tender for insurance) or
- (b) entering into any agreement or arrangement with any other person that he shall refrain from tendering or as to the amount of any Tender to be submitted; or
- (c) offering or agreeing to pay or give or paying any sum of money, inducement, gift /hospitality or valuable consideration directly or indirectly to any person in relation to this tender.

Signed

(1) _____ Status _____

(2) _____ Status _____

for and on behalf of

Date: _____



GOVERNMENT OF BERMUDA
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Tynes Bay Waste to Energy Facility

Pricing

Version : 01

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5.10 Tender Price Breakdown

5.10.1 Pricing

Tenderer shall provide line item pricing and a firm fixed total for the scope specified. Tenderer shall also provide pricing in accordance with scenarios presented below.

NOTE: SCHEDULED WORK IS TO TAKE PLACE IN TWO PARTS: BOILER UNIT # 1 EXACT DATES ARE TO BE DECIDED. PRICING SHOULD REFLECT WORK SCHEDULE

Boiler Unit # 1 Work

1. Ten (10) Hour Work Day Pricing

ITEM	DESCRIPTION	UNIT	PRICE
1	Equipment Mobilization/Demobilization	LS	
2	Crew Mobilization/Demobilization	LS	
3	Superheater I Materials & Installation	LS	
4	Superheater II Materials & Installation	LS	
5	Evaporator I Supply & Installation	LS	
6	Evaporator II Supply & Installation	LS	
7	Refractory Material for Capping	LS	
8	Refractory Installation	LS	
		TOTAL	

Boiler Unit # 2 Work

2. Ten (10) Hour Work Day Pricing

ITEM	DESCRIPTION	UNIT	PRICE
1	Equipment Mobilization/Demobilization	LS	
2	Crew Mobilization/Demobilization	LS	
3	Waterwall Fabrication	LS	
4	Waterwall Installation	LS	
5	Superheater I Materials & Installation	LS	
6	Superheater II Materials & Installation	LS	
7	Evaporator I Materials & Installation	LS	
8	Evaporator II Materials & Installation	LS	
9	Refractory Material	LS	
10	Refractory Replacement	LS	
		TOTAL	



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3. Please provide alternate pricing for accelerated work of two crews working ten (10) hour shifts for **Boiler Unit # 2 work**.

ITEM	DESCRIPTION	UNIT	PRICE
1	Equipment Mobilization/Demobilization	LS	
2	Crew Mobilization/Demobilization	LS	
3	Waterwall Fabrication	LS	
4	Waterwall Installation	LS	
5	Superheater I Materials & Installation	LS	
6	Superheater II Materials & Installation	LS	
7	Evaporator I Materials & Installation	LS	
8	Evaporator II Materials & Installation	LS	
9	Refractory Material	LS	
10	Refractory Replacement	LS	
		TOTAL	

4. Please include separate pricing for lodgings and transportation

Two Mobilizations

ITEM	DESCRIPTION	UNIT	PRICE
1	Hotel / Accommodations	LS	
2	Travel	LS	

Additional Labour Pricing for Supplementary Work

ITEM	DESCRIPTION	UNIT	PRICE
1	Site Supervisor	HR	
2	Welding Supervisor	HR	
3	Welder	HR	

Please specify any items or elements of work or expenditure not covered elsewhere in the Tender Price Analysis that is deemed necessary in the execution of this work. Bidder is to itemize.



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Tynes Bay Waste to Energy Facility

Appendix II

Company Information

Version : 01

Date: 6/2/2015

Prepared by: Nasir Wade

Checked by: LS

Approved by: Tynes Bay Management



6.10 Company Information – General (Contractor)

Company Name & Principals	
Company Address & Phone Number	
Payroll Tax Number	
Social Insurance Number	
Name of Workmen's Compensation Insurance Company	
Workmen's Compensation Insurance Policy Number	
Name of Contractor's Third Party Insurance Company	
Third Party Insurance Policy Number	
Name of Primary Bank	
Total Number of Persons Currently Employed	
Total Number of Bermudians Currently Employed	
Do you have an Environmental Policy?	
Do you have a Safety and Health Policy?	
Please provide the safety plans for this project.	
Please provide detailed information on projects of similar nature	

**A copy of the Certificate of Incorporation of the Company must accompany this form.
Provide additional Company Information Form for each Sub-Contractor.**



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6.20 Company Information – Sub Contractor # (1)

Company Name & Principals	
Company Address & Phone Number	
Payroll Tax Number	
Social Insurance Number	
Name of Workmen's Compensation Insurance Company	
Workmen's Compensation Insurance Policy Number	
Name of Contractor's Third Party Insurance Company	
Third Party Insurance Policy Number	
Name of Primary Bank	
Total Number of Persons Currently Employed	
Total Number of Bermudians Currently Employed	
Do you have an Environmental Policy?	
Do you have a Safety and Health Policy? Please provide the safety plan for this project	
Do you provide apprenticeships/training positions?	
Have you participated in appropriate business skills training, e.g. The BSBDC Construction incubator	

**A copy of the Certificate of Incorporation of the Company must accompany this form.
Provide additional Company Information Form for each Sub-Contractor.**